STENOSING TENDOVAGINITIS OF DE QUERVAIN*

REPORT OF CASE

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ACCORDING to Schneider,[1] whose recent article is the first to describe this condition in the American literature, De Quervain's disease is not so uncommon, as is its diagnosis. Nevertheless the diagnosis offers no difficulties. Briefly summarized, the main features of the disease are as given below.

HISTORICAL

The disease was first described by De Quervain,[2] of Basle, Switzerland, in 1895, who reported five cases.

Alfonse Eschle[3] collected one hundred and ten cases from the literature in 1924, adding nineteen cases of his own. Schneider[1] also added fifteen cases.

SYMPTOMS

Age: Any. *Sex:* Males, 12½ per cent. Females, 87½ per cent. *Occupation:* Approximately 60 per cent maids and housewives. *Onset:* Usually gradual, occasionally traumatic. *Pain:* Localized in region of radial styloid (occasionally neuralgic in hand and forearm; aggravated by motions of wrist, but chiefly by abduction and extension of thumb). *Swelling and tenderness:* Localized to region of radial styloid. *Local heat and redness:* Never present. *Crepitation:* Was complained of in our case, though it could not be palpated by us. Schneider says, "never any crepitation." *Disability:* Often complete of affected wrist.

SIGNS

Swelling and Tenderness.—Localized at point where the tendons of the abductor longus pollicis and the extensor brevis pollicis curve around the distal end of the radius.

Limitation of motion of wrist and thumb in varying degrees.

Roentgenological Findings. — Calcification of the periosteum where affected tendons pass over the radial styloid.

PATHOLOGY

Etiology is unknown. Possibly repeated trauma of monotonous occupations may predispose.

Noninflammatory proliferation of connective tissue in middle layers of tendon sheaths at this point. Dorsal carpal ligament and periosteum may also be thickened. Lumen of tendon sheaths strikingly narrowed.

TREATMENT

Immobilization of thumb by plaster of Paris cast of thumb and wrist. If not well in six to eight weeks:

Operation.—Simple longitudinal incision, without suture, of affected portion of sheaths, followed by early active motion. The various forms of physiotherapy are valueless except following operation.

PROGNOSIS

Without operation, 70 per cent of the cases can be cured.

With operation, 99 per cent of the cases can be cured.

Full return of function after operation, two to three weeks; (industrial cases, four to six weeks).

COMMENT

In the following report the most interesting features to us are:

1. The general surgeon who first handled the case missed the diagnosis, though he treated the patient for over one month.
2. So did the surgeon's roentgenologist.
3. So did both the authors.
4. So did their roentgenologist on two examinations.
5. The pathology found at operation was appreciated, and although not recognized as De Quervain's, appropriate treatment resulted in cure; rather to our surprise.
6. Diagnosis was made by survey of the literature only after patient's final discharge.

Therefore we feel that a clinical entity so easy of diagnosis, so disabling, and yet so amenable to treatment deserves more widespread recognition than apparently obtains at present in this country.

REPORT OF CASE

William M., October 4, 1928.

Chief Complaint.—Pain on motion, and stiffness in left wrist.

Present Illness.—August 29, 1928, crate weighing two hundred pounds fell on left wrist. Continued working, but swelling appeared over lateral surface lower extremity left radius, and wrist became painful. So August 31, stopped working and went to Dr. R., who took x-rays, said "no bones broken" and put bandage on wrist. Patient bathed wrist in hot water at home. Did not work. September 20, Dr. R. splinted left wrist with anterior yucca board and ordered baking, massage, active and passive motion. This treatment continued every day to present.

Present Status.—Swelling still present; has never been discolored; is gradually decreasing in size, though very slowly.

Pain located at swelling, occurs only on active or passive motion; none at night.

Patient occasionally feels crepitus at the site of the swelling when thumb is moved.

Physical Examination.—Inspection: Localized swelling size of half-dollar lateral aspect lower extremity of left radius. No redness nor ecchymosis.

Palpation: Swelling is firm, attached to bone, has smooth sides, is only moderately tender, does not pit on pressure. No local heat. No tenderness elsewhere.

Manipulation: Extremes of any motion of wrist, particularly palmar flexion and radial flexion, cause slight pain at site of swelling; no crepitus felt. Compression of radius and ulna at mid-forearm causes no motion or pain at wrist.

Active motion: Pronation, supination, flexion of fingers, extension of fingers, normal; palmar flexion wrist, 45/60; dorsi-flexion wrist, 40/50; radial flexion wrist, 17/37; ulnar flexion wrist, 25/27; thumb to tips of fifth finger, normal; thumb to base of fifth finger, lacks one-half inch.

Comment.—Localized swelling, moderately painful, immediately following direct trauma done five weeks ago. Never discolored, therefore periosteum unbroken. Now shows a tumefaction attached to bone, firm, only moderately tender, without signs of inflammation or dislocation. Moderate limitation of motion, chiefly in those motions where the acting tendons pass over the swelling.

Impression.—Subperiosteal, ossifying hematoma.

X-ray Report.—October 5, 1928. "Roentgen examination of the left wrist showed well-marked irregu-

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larity of lower end of radius. Apparently old healed fracture of lower end of ulna."

Progress Note on October 15.—After ten days of intensive physical therapy, the patient volunteers that he has seen some improvement, but at so slow a rate that it would be months before he would be cured. He is of the opinion that the mass beneath the abductors of his thumb will have to be removed before he can get relief. We would suspect a tenosynovitis if the pain were not so localized. Operation advised.

Operation, October 17, 1928.—1. Three and one-half inch longitudinal incision in anatomical snuff box of left hand.

The annular ligament was found to be several times thicker than normal, and on its central part presented a number of plates of what appeared to be cartilage. The sheaths of the tendons were split on the postero-external aspect where pain had been complained of when the hand was palmar flexed. This appeared to release them from tension.

2. A prominent piece of bone one centimeter by two centimeters was chiseled from the lower end of radius opposite the site of protested pain.

3. The wound was closed with light catgut and over it dermal. Plaster of Paris was not applied, nor was any immobilizing splint.

Progress Note on November 20, 1928.—This lad has done a good deal better than I had any reason to expect he would. The pain is all gone from his wrist; the motion has increased until it is almost normal; there is an area of numbness between the base of thumb and of first finger, apparently due to traction on the radial nerve at operation, and the swelling in the wrist has markedly diminished.

These results have come rather lately and I shall continue physiotherapy until the first of the month, at which time I hope to discharge him cured without disability excepting possibly for this little numbness at the base of the thumb.

November 27, 1928.—Patient discharged today having normal thumb and wrist motions in both hands.

909 Hyde Street.

REFERENCES

1. Schneider: Surg. Gyn. Obst., xlvi, 846-850, June 1928.

2. De Quervain: Ueber eine Form von chronischer Tendovaginitis, Cor.-Bl. f. schweiz. Aerzte, 1895, xiii, 389.

3. Eschle: Tendovaginitis Ueber Styloid Proc., Schweiz. Med. Wochenschr., vol. liv, 1006-1010, October 30, 1924.

HEMOCHROMATOSIS*

REPORT OF CASE

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HEMOCHROMATOSIS, variously known as bronze diabetes, pigmentary cirrhosis, and generalized hemochromatosis, is a chronic disease characterized by:

1. A peculiar discoloration of the skin due to iron-containing pigment, especially hemosiderin in the skin and various viscera.

2. Cirrhosis, especially of the liver and pancreas.

3. Slightly enlarged spleen.

4. In many cases a hyperglycemia, with or without glycosuria. The disease usually terminates fatally, in the end stages being accompanied by cachexia, anemia, acidosis, and possibly diabetic coma.

EARLY STUDIES

Troisier [1] in 1871 first described the disease, but it was not until 1889 that Von Recklinghausen [2] showed that the pigmentary changes were due to the hemosiderin in the skin, and named this symptom complex "hemochromatosis." About one hundred cases, all adults, have been reported in the literature, only four or five of which were females. The majority of the cases were diagnosed postmortem.

The etiology of hemochromatosis is uncertain, but there are many theories. Many of the cases have a history of chronic alcoholism, but it is difficult to see how this could be a factor when we see many cases of alcoholic cirrhosis without the pigmentary changes. Mallory [3] has recently published considerable experimental and some clinical evidence to support chronic copper poisoning as the causative factor. He had several patients who gave a history of long-standing copper exposure. However, with the increased copper distillation of alcoholic beverages it seems that hemochromatosis should be very common now if copper were a factor. Mills is quoted by Coustam [4] as reporting that Koreans use brass vessels for cooking purposes, and there are few pigmentary disturbances among these people.

Hall and Butt [5] repeated Mallory's experiments and confirmed his findings. They believe that "a direct relation exists between the amount of cirrhosis of the liver and the quantity of pigment deposited." Flinn and von Glahn [6] repeated Mallory's experiments on rabbits, guinea-pigs, and rats and concluded that neither copper nor its compounds cause cirrhosis of, nor deposition of pigment in, the liver. They were able to produce pigment depositions in the liver of rabbits by feeding them an exclusive carrot diet.

ORIGIN OF THE PIGMENT

There are numerous theories as to the origin of the pigment. Some of them are: that some unknown agent acts on the blood causing the erythrocytes to give up their iron; that the autolytic function of the liver cells or spleen is impaired; that there is a decreased iron output by the kidneys and intestines; and that there is a primary cirrhosis of the liver with secondary pancreatic changes and skin pigmentation. Recent animal experiments by Rous [7] tend to show that the cirrhosis is the primary lesion. His experiments also tend to show that "while the increased destruction of red blood cells cannot be the primary cause of hemochromatosis, yet these elements are certainly the source of the hemosiderin." Many authorities consider that the pigmentation is primary, and leads to cirrhosis of the liver and pancreas. The case reported seems to have had a primary skin pigmentation change followed by cirrhosis of the liver and spleen. As the iron deposits are increased in the cells normally metabolizing iron, it would seem that the initial lesion is a failure of organs which normally take care of the products of blood destruction to do so. Sprunt [8] and others have advanced this theory. Gaskell and others [9] have found an increase in iron content of blood with defective iron elimination.

SYMPTOMS

The onset of the disease is usually gradual. Quite frequently the patient presents himself with the typical symptoms of diabetes, that is polyuria, polydipsia, and polyphagia. Others have not re-

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